

The opinion in support of the decision being entered today was not written for publication and is not precedent of the Board.

Paper No. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte ROBERT N. HURST, JR. and JUNGWOO LEE

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Appeal No. 1998-2556  
Application 08/571,044

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ON BRIEF

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Before JERRY SMITH, FLEMING and HECKER, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 1-8 and 10-22, which constitute all the claims remaining in the application.

The disclosed invention pertains to an apparatus for compressing video signals containing pixel image data.

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Representative claim 1 is reproduced as follows:

1. Apparatus for compressing an image representative video signal containing pixel data comprising:

means for estimating noise in said video signal and providing an output;

means for generating residues having lower and higher amplitude components, said residues representing differences of pixel values between predicted pixel values and real pixel values of a current frame of said video signal being compressed;

nonlinear processing means, coupled to said generating means, for attenuating lower amplitude residues greater than higher amplitude residues and providing processed residues at an output, wherein a transfer function of said nonlinear processing means is responsive to said noise estimate; and

transform means for transforming said processed residues and providing a compressed video data output.

The examiner relies on the following references:

Zdepski et al. (Zdepski)	5,005,082	Apr. 02, 1991
Ishii et al. (Ishii)	5,051,826	Sep. 24, 1991
Stott et al. (Stott)	2,196,205	Apr. 20, 1988
(UK Application)		
Grotz et al. (Grotz)	0,346,636	Dec. 20, 1989
(European Application)		

The following rejections are on appeal before us:

1. Claims 10 and 11 stand rejected under 35 U.S.C. § 112, second paragraph, for failing to particularly point out and distinctly claim the invention.

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2. Claims 1, 2, 4, 5, 8, 10, 12, 14 and 15 stand rejected under 35 U.S.C. § 102(a) as being anticipated by the disclosure of Grotz.

3. Claims 16, 17, 21 and 22 stand rejected under 35 U.S.C. § 103 as being unpatentable over the teachings of Grotz taken alone.

4. Claims 3, 11, 13, 18 and 19 stand rejected under 35 U.S.C. § 103 as being unpatentable over the teachings of Grotz in view of Zdepski.

5. Claims 6 and 20 stand rejected under 35 U.S.C. § 103 as being unpatentable over the teachings of Grotz in view of Stott.

6. Claim 7 stands rejected under 35 U.S.C. § 103 as being unpatentable over the teachings of Grotz in view of Ishii.

Rather than repeat the arguments of appellants or the examiner, we make reference to the brief and the answer for the respective details thereof.

#### OPINION

We have carefully considered the subject matter on

appeal, the rejections advanced by the examiner and the evidence of anticipation and obviousness relied upon by the examiner as support for the prior art rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellants' arguments set forth in the brief along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that claims 10 and 11 are not in compliance with 35 U.S.C.

§ 112. We are also of the view that the prior art relied upon by the examiner does not support any of the prior art rejections. Accordingly, we affirm-in-part.

We consider first the rejection of claims 10 and 11 under the second paragraph of 35 U.S.C. § 112. The rejection states that there is no clear antecedent basis for the phrase "said coring function" in these claims. We note that appellants have not responded to this rejection. Since we agree with the examiner that there is no antecedent basis for the phrase "said coring function," and since appellants have

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offered no argument in rebuttal of the rejection, we sustain the examiner's rejection of claims 10 and 11 under the second paragraph of 35 U.S.C. § 112.

We next consider the rejection of claims 1, 2, 4, 5, 8, 10, 12, 14 and 15 as being anticipated by the disclosure of Grotz. These claims stand or fall together as a single group. Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir.); cert. dismissed, 468 U.S. 1228 (1984); W.L. Gore and Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

With respect to representative, independent claim 1,

the examiner indicates how he perceives the claimed invention to be fully met by the disclosure of Grotz [answer, pages 4-5]. Appellants respond that Grotz has no "means for estimating noise" as recited in claim 1. Since there is no means for estimating noise in Grotz, appellants also argue that Grotz has no nonlinear processing means with a transfer function which is responsive to the noise estimate [brief, pages 5-7]. The examiner responds that the MCFE circuit of Grotz inherently functions to estimate noise since Grotz reduces small noise-like disturbances through errors in the motion-compensated prediction and the DCT coding [answer, pages 13-14].

After a careful consideration of the Grotz disclosure, we agree with appellants that Grotz does not anticipate the invention of claim 1. Although Grotz does disclose that his system can reduce small noise-like disturbances, Grotz does not achieve this function by controlling a nonlinear processing means as a function of a determined noise estimate signal. As pointed out by appellants, there is no disclosure in Grotz of estimating noise and using that estimate as a control parameter. Grotz estimates the picture information

itself based on motion estimation, and not the noise. We agree with appellants that estimating motion compensated picture information is not a noise estimate, nor does it inherently involve a means for estimating noise.

If a prior art reference does not expressly set forth a particular element of the claim, that reference still may anticipate if that element is "inherent" in its disclosure. To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill."

Continental Can Co. v. Monsanto Co., 948 F.2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991). "Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." Id. at 1269, 20 USPQ2d at 1749 (quoting In re Oelrich, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981).

The record before us does not support the examiner's assertion that Grotz inherently has a means for estimating noise as recited in independent claim 1. Since all the recitations of claim 1 are not present in the

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Grotz disclosure, we do not sustain the examiner's anticipation rejection of claim 1 or of claims 2, 4, 5, 8, 10, 12, 14 and 15 which depend therefrom based on the Grotz disclosure.

We now consider the various rejections of the claims under 35 U.S.C. § 103. In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293,



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227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). Only those arguments

actually made by appellants have been considered in this decision. Arguments which appellants could have made but chose not to make in the brief have not been considered [see 37 CFR § 1.192(a)].

The remaining independent claims are claims 17 and 22. Claims 17 and 22 are rejected based on Grotz taken alone. Since claim 22 has the same means for estimating noise recitations as we considered in claim 1 above, the examiner's rejection of claim 22 must fail because there is no teaching or suggestion of a means for estimating noise in Grotz. Independent claim 17 does not recite a means for estimating noise, but instead, recites details of the transfer function of a nonlinear processing means having a coring window. The examiner admits that Grotz does not teach transfer functions having the properties set forth in claim 17, but the examiner finds that the artisan having general knowledge of noise reduction image processing systems "would have had no difficulty" in providing such transfer functions [answer, pages 6-7]. Appellants respond that neither "general knowledge" nor any of the cited references suggest transfer functions having the properties recited in claim 17 [brief, pages 7-8].

We agree with appellants that the prior art applied by

the examiner does not support the obviousness rejection as formulated by the examiner. The mere fact that the prior art may be modified in the manner suggested by the examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992); In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). Grotz taken alone (with or without general knowledge) does not suggest transfer functions having the properties recited in claim 17. The only basis for making the modification proposed by the examiner comes from an improper attempt to reconstruct appellants' invention in hindsight. Therefore, we do not sustain the rejection of claims 17 and 21 based on Grotz taken alone.

Although dependent claims 3, 6, 7, 11, 13 and 18-20 are rejected using the additional teachings of Zdepski, Stott or Ishii, none of these additional references overcomes the basic deficiency in Grotz discussed above. Therefore, we also do not sustain any of the rejections of claims 3, 6, 7, 11, 13 and 18-20.

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In summary, we have sustained the rejection of claims 10 and 11 under 35 U.S.C. § 112 because appellants have offered no response to the rejection. We have not sustained any of the prior art rejections of claims 1-8 and 10-22. Accordingly, the decision of the examiner rejecting claims 1-8 and 10-22 is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

JERRY SMITH	)	
Administrative Patent Judge	)	
	)	
	)	
	)	
MICHAEL R. FLEMING	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES
	)	
	)	
STUART N. HECKER	)	
Administrative Patent Judge	)	

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